second resistance R2;

a third resistance R3; and

a Zener diode D2 used to process power processed by said second resistance R2 and said second capacitance C2 in coordination with said third resistance R3.

Please amend claim 18 as follows:

18. (amended) The second power source control module as recited in claim 17, wherein a second diode D2 is added into said bias circuit to work in coordination with said Zener diode D1 to rectify.

REMARKS

Claims 1-18 have been amended to more distinctly claim the invention. Support for these changes can be found in the specification, claims, and drawings as originally filed.

The claims 1-7 are patentable over Thereze '578 in view of Kadatsky '155. Kadatsky '155 does not disclose a "harmonic signal to said power input sides" that is connected as a synchronizer to the input sides. It would not be proper to combine the references because Thereze in view of Kadatsky does not suggest the claimed invention. It would not be obvious to one having ordinary skill in the art to generate a synchronizing signal to reduce the harmonic frequency content generated by ripple in the plurality of power sources to improve ripple filtering because no such control as claimed is shown or suggested by the cited references, therefore it would be improper to combine them to arrive at the claimed invention. Further, since the combination of Thereze in view of Kadatsky does not teach the claimed synchronization function, the references teach away from the claimed invention. No *prima facie* case has been shown, claims 1-7 are not obvious with regard to Thereze in view of Kadatsky and are allowable. Regarding claims 2-7, Thereze in view of Kadatsky does not show the control as claimed in claim 1 with regard to the two power sources as claimed in claim 2 therefore it would not be proper or possible to combine them to arrive at the claimed invention.

With regard to claims 8-10, there appears no suggestion in Thereze to combine the rectifier of Johnson and the biasing circuit of Matsumoto and the coupler of Farrington to arrive at the present invention. There appears no suggestion in Johnson to combine the power source control module of Thereze and the biasing circuit of Matsumoto to arrive at the claimed invention. There appears no suggestion in Matsumoto to combine the power modules of Thereze with the bridge rectifier of Johnson and the biasing circuit of Matsumoto with the coupler of

Farrington. There appears no suggestion in Farrington to combine the power source of Thereze with the rectifier of Johnson, and the biasing circuit of Matsumoto. Further, the references teach away by not providing the controller architecture as claimed, Tsx in Farrington is connected and configured as a transformer not a coupler as claimed. Further, the picking and choosing of elements does not render the claims obvious. No *prima facie* case has been shown; therefore, claims 8-10 are not obvious in view of Thereze, Johnson, Matsumoto and Farrington and are allowable.

Regarding claims 13-16, there is no suggestion in the cited references to arrive at the combination of the bias circuit of Matsumoto and the coupler of Farrington with the electronics of Thereze to arrive at the control module of the claimed invention. Further, the combination teaches away by not providing a control module function as claimed, Tsx in Farrington is connected and configured as a transformer not a coupler as claimed. Further, the picking and choosing of elements does not render the claim obvious. No *prima facie* case has been shown, therefore, it would not have been obvious to combine Thereze with Matsumoto and Farrington to arrive at the claimed invention and claims 13-16 are therefore allowable over the cited references.

Regarding claims 11, 12, 17 and 18, claims 11, 12, 17 and 18 are now allowable.

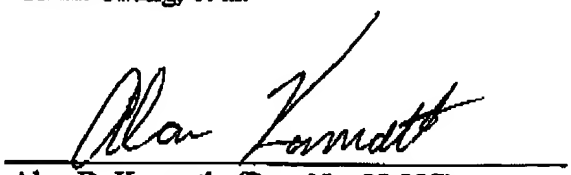
The Examiner has cited the patents and publications listed in Notice of References Cited as A-J and N. By the lack of application of these references and other like them within the classes or subclasses searched, the Examiner apparently recognizes the clear patentability of the present invention over any of these references.

Therefore, since the claims of the present application have been shown to include limitations directed to the features of applicants' power source control module and system which are neither shown, described, taught, nor alluded to in any of the references cited by the

Examiner, whether those references are taken singly or in any combination, the Examiner is requested to allow claims 1-18, as amended, of the present application and to pass this application to issue.

Respectfully submitted,

Herlin Chang, et al.

Dated: July 22, 2003 By: 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE IN THE SPECIFICATION

Page 1, lines 19-22 have been amended as follows:

The inventor of the invention ruminated over the disadvantages resulted from the commonly seen power control system described above. After studying hard for a long period, the inventor finally **[succeed]** **succeeded** in inventing the present invention, a multiple power sources control system.

Page 2, line 28 to page 3, line 1 have been amended as follows:

FIG.3B is **[the]** another schematic diagram of the circuit of the inside bias of the power source switching module of the multiple power sources control system; and

Page 3, line 28 to page 4, line 4 have been amended as follows:

Referring to FIG.1, a multiple power sources control system mainly comprises: power input sides 101, first voltage and current detecting modules 102, control switches 107, second voltage and current detecting modules 105, a control module 103, power source switching modules 104, and power output sides 106; there are at least two power input sides **101**, which can receive two or more than two independent power sources; the control switches 107 are in ON or OFF state controlled by the signal of the control module 103.

Page 4, lines 11-14 have been amended as follows:

The control module 103 is used to control the control switches 107 and power the source switching modules 104 due to the state infirmed from the first voltage and current **detecting** modules 102 and the second voltage and current detecting modules 105, and to output a harmonic signal to the power input sides 101 to make input power sources in harmony.

Page 4, lines 18-26 have been amended as follows:

According to combination of above-described components, when one of the independent power source is abnormal, the voltage and current detecting module can **[informs]** **inform** the control module **103** of the state to make the control module **103** immediately control the power source switching module **104** to switch the power source supplying power output sides **106** to other normal independent power sources of the power input sides **101** such that the loads can keep obtaining required power. In the other hand, the multiple power sources control system of the present invention can proceed power calculation and load management (harmonizing

frequencies of every power input sides **101** to be in synchronous state), which can make two or more than two independent power sources in parallel connection to get larger power output.

Page 4, line 27 to page 5, line 4 have been amended as follows:

Referring to FIG.2, which is the schematic diagram of the control circuit of the commonly used switch, the circuit of commonly used power source transfer switches 21 is to use SCR or silicon controlled rectifier. When the power of AC1 is abnormal, the power source **transfer** switch 21 switches the power source for loads 22 to AC2 to make loads 22 keep obtaining power. When the phase angle of AC1 is not 0 or 180 **[degree]** **degrees**, or there is an electroweak effect, if the power source transfer switch 21 switches power source to AC2, the voltage of AC2 may feedback to AC1 because SCR or silicon controlled rectifier can't turn off AC1, and therefore, danger may **be** produced.

Page 5, lines 5-16 have been amended as follows:

Referring to FIG.3A, the power source **[switch]** **switching** module 104 is composed of a bridge rectifier 31, a MOSFET transistor 32 (IGBT or other power components which can be turned on or turned off immediately also can be used), a bias **circuit** 33 and a coupler 34. An external control signal 35 can **[makes]** **make** the coupler 34 in the ON or OFF state to control whether the **[MOSDET]** **MOSFET** transistor 32 output the power passing through the bridge rectifier 31. The power source switching module 104 can control whether power is **[outputted]** **output** by control signal 35 such that there is no danger commonly power source switches may have. In the other hand, D1 of the bias voltage circuit 33 is used to process half-wave rectification, R1 and C1 are used to process first-stage voltage decay and filtering wave, R2 and C2 are used to process second-stage voltage decay and filtering wave, and then D2 and R3 are used to determine the magnitude of voltage of bias of the MOSFET transistor 32. Besides, D3 can be added into the bias circuit 33 to proceed the task of full-wave rectification of power (shown in FIG.3B).

Page 5, lines 17-24 have been amended as follows:

Referring to FIG.4, the power source switching module 104 can also be **[composes]** **composed** of a first MOSFET transistor 41, a second MOSFET transistor 42 (the first MOSFET transistor 41, the second MOSFET transistor 42 can be replaced with IGBT or other power components which can be switched immediately), a first diode 43, a second diode 44, a bias circuit 33 and a coupler 47. **[an]** **An** external control signal 45 can make the coupler 47 in **[On]**

ON or OFF state to control action of first MOSFET transistor 41, second MOSFET transistor 42, first diode 43 and second diode 44 to further control the power transmitted to loads 46. In addition, the coupler has the function of separating high-voltage power.

IN THE CLAIMS

Please amend claim 1 as follows:

1. (amended) A first multiple power sources control system, **[which can switch]** **switching** an originally used power source having an abnormal phenomenon to **[other]** normal power sources to make loads keep obtaining supplied power**[,]** and **[provides]** **providing** power calculation and load management to make **[two or more than two]** **a plurality of** power sources in parallel connection to get larger power output, **[and main comprises]** **comprising**:

a plurality of power input sides **[which are]** used to receive a plurality of external independent power sources;

a plurality of first voltage and current detecting modules **[which are]** used to detect whether said power sources of said power input sides is abnormal;

a plurality of power output sides **[which are]** used to supply a plurality of loads with required power;

a plurality of second voltage and current detecting modules **[, which are]** used to detect whether power of said power output sides is abnormal;

a plurality of power source switching modules **[, which are]** used to switch a power source supplying said power output sides with power due to a signal of a control module; **and**

said control module **[, which can control]** **controlling** a plurality of control switches to be in an ON or OFF state and **[control]** **controlling** said power source switching modules according to a state informed from said first voltage and current detecting modules and said second voltage and current detecting module**[,]** and can output a harmonic signal to said power input sides.

Please amend claim 2 as follows:

2. (amended) **[a]** **The** multiple power sources control system as recited in claim 1, wherein **[there are]** at least two said power input sides **[which can]** receive **[two more than two]** **the plurality of** said **external** independent power sources.

Please amend claim 3 as follows:

3. (amended) **[a]** **The** multiple power sources control system as recited in claim 1, wherein **[there is]** at least one said power output side **[which can supply]** **supplies at least** one **[or more than one]** **of** said loads with power.

Please amend claim 4 as follows:

4. (amended) **[a]** **The** multiple power sources control system as recited in claim 1, wherein **[there is]** at least one first voltage and current detecting module **[which can detect]** **detects at least** two **[or more than two]** **of** said power input sides.

Please amend claim 5 as follows:

5. (amended) **[a]** **The** multiple power sources control system as recited in claim 1, wherein **[there is]** at least one second voltage and current system **[which can detect]** **detects at least** one **[or more than one]** **of** said power output sides.

Please amend claim 6 as follows:

6. (amended) **[a]** **The** multiple power sources control system as recited in claim 1, wherein said power source switching modules **[can switch]** **switches at least** two **[or more than two]** **of** said **plurality of** independent power sources.

Please amend claim 7 as follows:

7. (amended) **[a]** **A** multiple power sources control system as recited in claim 1, wherein **[there is one or more than]** **at least** one **of** said power source switching modules **are provided**.

Please amend claim 8 as follows:

8. (amended) **[a]** **A** first power source control module, **[which comprises]** **comprising**:

a MOSFET transistor **[, which]** **to** **[controls]** **control** whether power is transmitted to **[said loads]** **a load**;

a bridge rectifier **[, which can]** **to** rectify power to provide said MOSFET transistor with **[direction of]** an electric current;

a bias circuit **[, which can]** **to** provide said MOSFET transistor a fixed bias; **and**

a coupler **[, which can]** **to** control a state of said MOSFET transistor by an external control signal passing through said coupler.

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Please amend claim 9 as follows:

9. (amended) **[a] The** first power source control module as recited in claim 8, wherein said MOSFET transistor **[can be] is** replaced by other transistor components.

Please amend claim 10 as follows:

10. (amended) **[a] The** first power source control module as recited in claim 8, wherein said coupler **[can be] is** replaced by other transistor components.

Please amend claim 11 as follows:

11. (amended) **[a] The** first power source control module as recited in claim 8, wherein said bias circuit comprises**[;] :**

a **first** transistor D1 used to rectify power;

a first resistance R1;

a first capacitance **C1 [, which proceeds] proceeding** first-stage voltage decay and filtering wave of power rectified by said first transistor D1 in coordination with said first resistance R1;

a second resistance R2;

a second capacitance C2 **[, which proceeds] proceeding** second-stage voltage decay and filtering wave of power processed by said first resistance R1 and said first capacitance C1 in coordination of said second resistance R2;

a third resistance R3; **and**

a Zener transistor D2 **[, which processes] processing** power processed by said second **[transistor] resistance** R2 and said **second** capacitance C2 in coordination with said third resistance R3**[, and decide to bias]**.

Please amend claim 12 as follows:

12. (amended) **[a] The** first power source control module as recited in claim 11, wherein a third transistor D3 **[can be] is** added into said bias circuit to work in coordination with said first transistor D1 **[to rectify]**.

Please amend claim 13 as follows:

13. (amended) **[a] A** second power source control module, **[which comprises] comprising:**

a first MOSFET transistor;

a second MOSFET transistor;

a first diode;

a second diode;

a bias circuit **[, which provide]** **providing** said first MOSFET transistor and said second MOSFET **transistor** with a fixed bias; **and**

a coupler **[, which controls]** **controlling** states of said first MOSFET transistor, said second MOSFET transistor, said first diode, and said second diode by an external control signal passing through said coupler.

Please amend claim 14 as follows:

14. (amended) **[a]** **The** second power source control module as recited in claim 13, wherein said MOSFET transistor **[can be]** **is** replaced with IGBT or other power components which can be turned on or off immediately.

Please amend claim 15 as follows:

15. (amended) **[a]** **The** second power source control module as recited in claim 13, wherein said coupler **[can be]** **is** replaced with other transistor components.

Please amend claim 16 as follows:

16. (amended) **[a]** **The** second power source control module as recited in claim 13, wherein said bias circuit **[can be]** **is** replaced with other transistor components.

Please amend claim 17 as follows:

17. (amended) **[a]** **The** second power source control module as recited in claim 13, wherein said bias circuit comprises:

a **first** transistor D1**[, which is]** used to rectify power;

a first resistance R1;

a first capacitance C1**[, which is]** used to proceed first-stage voltage decay and filtering wave of power rectified by and said first transistor D1 in coordination with said first **[transistor]** **resistance** R1;

a second **[transistor]** **resistance** R2;

a second capacitance C2 **[, which is]** used to proceed second-stage voltage decay and filtering wave of power processed by said first **[resistor]** **resistance** R1 and said first capacitance C1 in coordination with said second resistance R2;

a third resistance R3; **and**

a Zener diode D2 **[, which is]** used to process power processed by said second resistance

R2 and said second capacitance C2 in coordination with said third resistance R3 **[and decide to bias]**.

Please amend claim 18 as follows:

18. (amended) **[a]** **The** second power source control module as recited in claim 17, wherein a second diode **[D3]** **D2** **[can be]** **is** added into said bias circuit to work in coordination with said **[first]** **Zener** diode D1 to rectify.